

# A new genus and three new species of scale insects (Hom. Coccoidea) from South Africa

by

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(Submitted through Dr. H. K. Munro, Division of Entomology, Pretoria)

The following three species of the tribe Diaspidini have been submitted for identification by Dr. H. K. Munro of the Department of Agriculture, Pretoria.

Hall<sup>1)</sup> has already discussed over 60 species of this tribe from South Africa where there is a high proportion of Chionaspiform species. One described herein, belonging to the Chionaspiform group, is so distinct from the recorded species that a new genus has been erected. This will no doubt be increased by other species after further collecting.

Holotypes and paratypes deposited in the British Museum, (Nat. Hist.), other paratypes in the Department of Agriculture, Pretoria.

## **Aloaspis** gen.n.

Generic type — *Aloaspis mutica* sp.n.

Referable to the tribe Diaspidini, having two-barred ducts and second pygidial lobes bi-lobed. Body of adult female broadly oval, membranous throughout. Pygidium broadly rounded with two pair of lobes. Median lobes with inner margins divergent, bluntly pointed, not zygotic or yoked at the base by a sclerotic band. Second lobes with inner lobule as large as median lobes. Gland spines absent, although there may be minute projections in the positions of gland spines, these without any internal microduct. Dorsal ducts numerous, varying in size. Macroducts short, a distinct row on the seventh segment. Submedian group on sixth abdominal segment irregular and joining with the submarginal groups. Dorsal ducts on the anterior abdominal segments in somewhat irregular rows with no definite gap between the median and submarginal ducts, numerous especially in the marginal areas. Ventral surface with numerous microducts; gland tubercles absent. Anal orifice near the centre of the pygidium.

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<sup>1)</sup> Hall, W. J. 1946. On the Ethiopian Diaspidini (Coccoidea). Trans. R. ent. Soc. Lond., 97: 497-583.

Scale of adult female moderately convex, white, elongate and broadened posteriorly; exuviae apical. Male scale white with a median carina.

*Notes.* The absence of gland spines and the presence of a distinct row of macroducts on the seventh abdominal segment distinguishes this genus from all the other African Chionaspiform genera. It seems to come closest to the genus *Inchoaspis* MacGill. and especially to *I. argentata* (Hall) which is without gland spines. In *Inchoaspis*, however, there are three pairs of lobes and the rows of dorsal ducts are much more regular.

***Aloaspis mutica* sp.n. (fig. 1)**

Scale of adult female white and of a downy texture, broadened posteriorly. Length approximately 1.50 mm. long and 0.75 mm. wide. Exuviae of second stage brown to black and often showing through the coating of white wax. Exuviae of first stage brown. Occurring on the upper surfaces of the leaves.

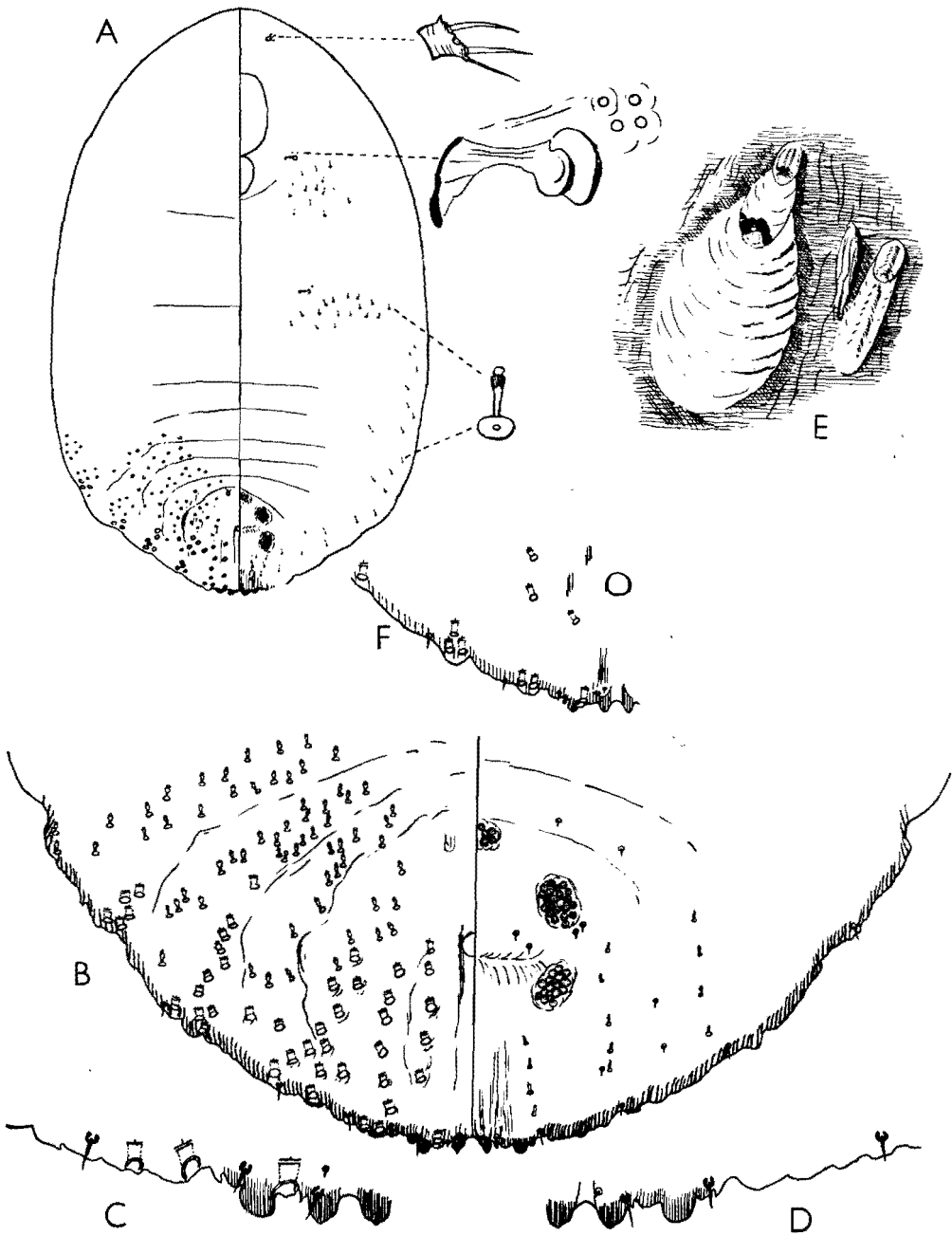
Male scale about a third as long as female scale, with a median carina, sides subparallel, posterior end rounded.

Adult female measuring 0.95 mm. long and 0.60 mm. wide when mounted on the slide, broadly oval and widest across the metathorax and first abdominal segment. Pygidium having two pairs of lobes, each set wide apart. Median lobes slightly longer than wide, bluntly pointed, divergent. Second lobes bi-lobed, rounded, the inner lobule about the same size as the median lobes, the lateral lobule represented by a small bulge. Gland spines apparently absent. There is a minute, pointed projection between the median and second lobes and lateral to the second lobes, these in the normal positions for gland spines but without microducts. Dorsal ducts numerous, varying in size, the macroducts being short and squat. A single marginal duct on the seventh segment, and a pair on the sixth segment. Marginal and submarginal groups of ducts present as far anterior as the first abdominal segment, becoming small anteriorly. Seventh segment with a distinct row of submarginal macroducts. Submedian ducts mainly very small, present on segments two to six, these joining with the submarginal ducts. Anal opening situated near the centre of the pygidium. Perivulvar pores in five groups, the anterior group with 6—12 pores, the antero-laterals each with 14—20 pores and each posterolateral group with 12—15 pores. Ventrally there is a small group of microducts posterior to each spiracle and other microducts near the abdominal margin. Gland tubercles absent. A few pores associated with the anterior spiracles.

Collected by van den Berg on *Aloe* sp. at Kroonstad, Orange Free State, South Africa, in August 1942 No. SN. 3026.

Fig. 1. *Aloaspis mutica* sp.n.

A - body of adult female; B - pygidium of adult female; C - dorsal aspect of pygidial margin; D - ventral aspect of pygidial margin; E - male and female scales; F - pygidium of second stage female.



***Diaspis portulacariae* sp.n. (fig. 2)**

Scale of adult female pale buff, circular and with the exuviae subcentral. Approximately 1.75 mm. in diameter. Occurring on the stems.

Scale of male greyish white, sides subparallel, posterior end rounded, uncarinated. Length approximately 1.25 mm.

Adult female measuring about 1.2 mm. long and 1.0 mm wide, turbinate, with distinct lateral thoracic lobes. Pygidium with three pairs of well developed lobes, each projecting from the margin. Median lobes about as broad as long without setae between them, usually rounded with inner margins divergent and smooth. In some specimens these lobes may be notched especially on the outer margins (fig. 2Ca). Second lobes bi-lobed, each lobule longer than wide, rounded. Inner lobule just slightly smaller than the median lobes, longer than wide, outer lobule about half the size of the inner. Third lobes similar to the second but correspondingly smaller. Each median lobe and lobule bears a pair of long, well developed ventral scleroses arising from the base. Third and fourth lobes represented by small sclerotized bulges. Interlobal glandular projections poorly developed. Gland spines numerous as far anterior as the metathorax, spaced at more or less regular intervals, single on the fifth to seventh segments. Dorsal ducts not numerous. Marginal macroducts arranged singly between the median lobes and on the seventh segment, in pairs on each of the sixth and fifth segments and singly on the fourth segment just above the bulge representing the lobe. Other marginal ducts of smaller size arranged as far anterior as the metathorax. A single submarginal duct lies anterior to the second lobes and another on the fourth segment, these lying parallel to the pygidial margin. Rows of other submarginal ducts on the first to third segments. Groups of submedian ducts on the first to fourth segments only, usually only one duct on the fourth segment but sometimes two present; these ducts distinctly separate from the submarginal ducts. Anal opening small, situated near the apex of the pygidium. Perivulvar pores in five compact groups. Ventrally there are a few submarginal microducts on the prepygidial segments. Antennal tubercle with a single curved seta. Spiracles without pores.

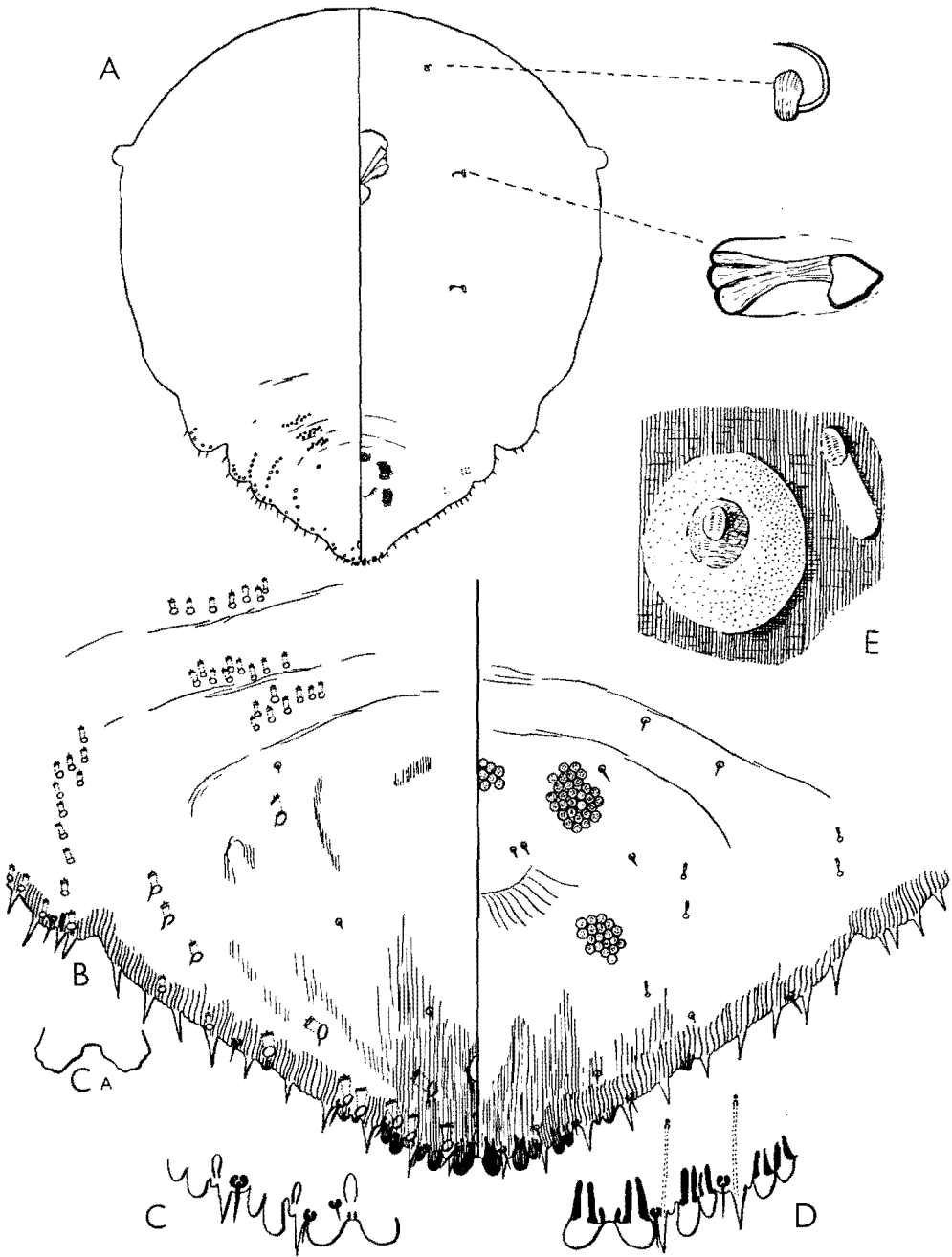
Collected at Salem, Cape Province, South Africa on *Portulacaria afra* by C. J. Skead, August 1946, no. SN. 3004.

*Notes.* The three pairs of prominent lobes and the small number of dorsal ducts distinguish this species from others recorded from the Ethiopian Region. The lobes are similar to those of *D. radiculicola* Ferris but the latter species has numerous dorsal ducts.

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Fig. 2. *Diaspis portulacariae* sp.n.

A - body of adult female; B - pygidium of adult female; C - dorsal aspect of pygidial margin; D - ventral aspect of pygidial margin; E - male and female scales; F - pygidium of second stage female.



***Rolaspis euryopis* sp.n. (fig. 3)**

Scale of adult female white, smooth, elongate and moderately convex; exuviae pale brown. Measuring approximately 2.5 mm. long and 1.5 mm. wide. Occurring on both sides of the leaves.

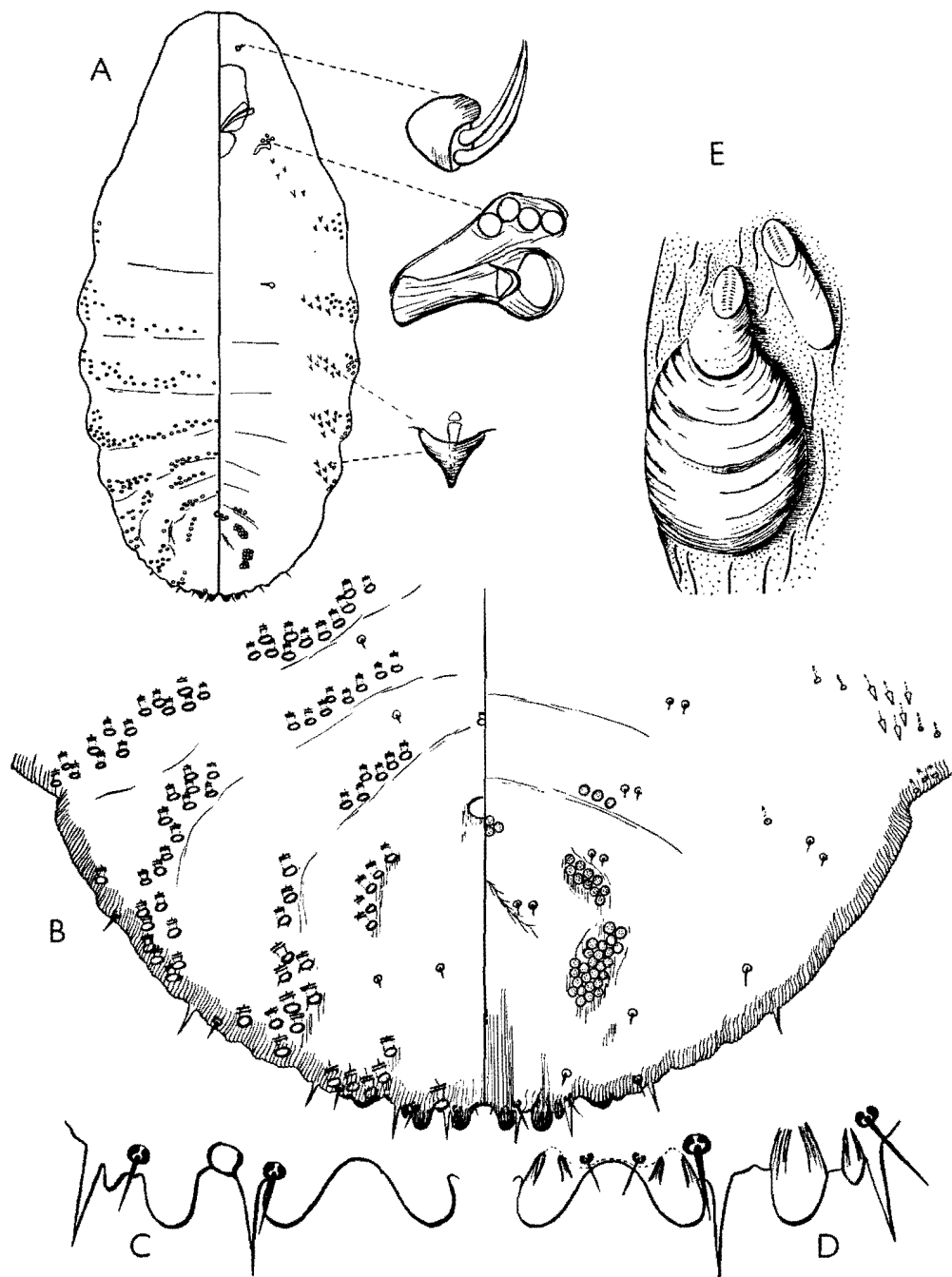
Male scale about half the length of female scale, white, sides roughly parallel, posterior end rounded, uncarinated.

Adult female membranous at maturity, measuring approximately 1.2 mm. long and 0.7 mm. wide; elongate oval, widest across the metathorax, anterior abdominal segments and posterior two thoracic segments at maturity with moderate lateral lobes. Pygidium broadly rounded with two pairs of lobes. Median lobes well developed with smooth edges, set well apart, divergent and having a wide U-shaped notch between with a pair of setae near the bases. Yoked together basally by a very narrow sclerotized band although this only apparent in well stained specimens; each lobe with a pair of small ventral scleroses at the base. Second lobes bi-lobed, the inner lobules rounded and projecting slightly further than the median lobes; outer lobule much shorter and pointed, both lobules having well developed ventral scleroses at the bases. Third lobes represented by a narrow sclerotized swelling. Gland spines slender and arranged singly. Dorsal ducts numerous, becoming smaller anteriorly. A single marginal duct on the seventh segment, two or three on the sixth segment and others on the margins of each segment as far anterior as the mesothorax. The marginal ducts on the sixth and seventh segments carry short microducts on their inner ends. Submarginal ducts absent on the seventh segment, one or two present on the sixth segment; numerous on the anterior segments as far as the metathorax. On the posterior edges of the metathorax and first and second abdominal segments the submarginal ducts join with the submedian ducts to form double or triple rows. The submedian ducts of the third to sixth segments form distinct groups, more or less in single rows and separated from the submarginal ducts; those on the third to fifth, however, may be continuous across the middle of the segments or joined by an occasional single duct. The submedian ducts of the sixth segment in a definite isolated group composed of from 3 to 7 ducts, these in a single row. Anal opening situated near the base of the pygidium. Perivulvar pores in five groups, the anterior group with 4—8 pores, the antero-lateral groups each with 10—18 pores and the postero-laterals each with 20—30 pores. In addition there may be a group of 2—5 supplementary pores anteriorly, these absent in some specimens. Ventrally there are groups of marginal and submarginal microducts on the mesothorax and as far posteriorly as the fourth segment. Gland tubercles present, a few lying posterior to the first spiracles and others in groups on the inner side of the submarginal microducts as far posterior as the fourth

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Fig. 3. *Rolaspis euryopis* sp.n.

A - body of adult female; B - pygidium of adult female; C - dorsal aspect of pygidial margin; D - ventral aspects of pygidial margin; E - male and female scales; F - pygidium of second stage female.



segments. Antennal tubercle with a pair of curved setae. Anterior spiracles with three to four pores.

Collected by W. E. Marriott on *Euryops tysonii*, Cathedral Peak Area, Drakensberg, Natal, South Africa, in July 1946, No. SN. 2595.

*Notes.* This species comes very close to *Rolaspis compositae* Hall also described from South Africa. The latter species differs, however, in having two marginal and no submarginal ducts on the sixth segment. Also the ducts on segments three to five are in two regular parallel rows whilst in *eurypis* these ducts occupy single rows on the posterior edges of the segments. Both species are similar in having a very narrow sclerotic band between the median lobes which is difficult to see in some specimens. In this respect these two species differ from all the other members of the genus *Rolaspis* which have the median lobes clearly yoked basally. It is possible that *eurypis* and *compositae* belong to a different genus but this cannot be determined until further species have been found.